

Issuance Date: ____
Effective Date: ____
Expiration Date: ____

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT No. WA-000295-0

State of Washington
DEPARTMENT OF ECOLOGY
Olympia, Washington 98504-7600

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.

Intalco Aluminum Corporation
P.O. Box 937
Ferndale, Washington 98248

Facility Location:

4050 Mountain View Road
Ferndale, Washington 98248

Water Body I.D. No.:

WA-01-0030

Industry Type:

Primary Aluminum Smelter

Receiving Water:

Strait of Georgia
Water Quality Class AA

Discharge Locations:

001- Latitude: 48° 50' 26.8" N
Longitude: 122° 43' 13.6" W
002- Latitude: 48° 50' 22" N
Longitude: 122° 42' 56.1" W
003- Latitude: 48° 50' 49" N
Longitude: 122° 42' 56.1" W
004- Latitude: 48° 50' 13" N
Longitude: 122° 42' 52" W
005- Latitude: 48° 50' 31" N
Longitude: 122° 42' 49" W
011- Latitude: 48° 50' 33" N
Longitude: 122° 42' 53" W
012- Latitude: 48° 50' 25" N
Longitude: 122° 42' 53" W

is authorized to discharge in accordance with the special and general conditions which follow.

Carol Kraege, P.E.
Industrial Section Manager
Solid Waste and Financial Assistance Program
Washington State Department of Ecology

TABLE OF CONTENTS

SUMMARY OF PERMIT ACTIVITIES AND REPORT SUBMITTALS	5
SPECIAL CONDITIONS	9
S1. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS	9
A. Process Wastewater Discharges – Outfall 001	9
A.1 Stormwater Allocation at Outfall 001	11
B. Stormwater Discharges – Outfall 002	12
C. Sanitary Lagoon Discharges	13
D. Additional Monitoring Requirements	15
E. Outfall 002 Diversion	16
F. Stormwater Monitoring at Outfall 002 after Diversion	17
G. Whole Effluent Toxicity (WET) Testing	17
H. Priority Pollutant Testing	17
J. Temporary Curtailment	18
S2. MONITORING, REPORTING, AND RECORDKEEPING	19
A. Sampling and Analytical Procedures	19
B. Flow Measurement	20
C. Laboratory Accreditation	20
D. Reporting	20
E. Records Retention	21
F. Recording of Results	21
G. Additional Monitoring by the Permittee	21
H. Noncompliance Notification	22
I. Reporting - Shellfish Protection	22
S3. OPERATION AND MAINTENANCE	22
A. Operations and Maintenance Manual	22
B. Bypass Procedures	24
C. Duty to Mitigate	25
S4. FACILITY LOADING	25
A. Design Criteria	25
S5. SOLID WASTE DISPOSAL	26
A. Solid Waste Handling	26
B. Leachate	26
C. Solid Waste Control Plan	26
S6. NON-ROUTINE AND UNANTICIPATED DISCHARGES	26
S7. SPILL PLAN	27
S8. ACUTE TOXICITY	28

A.	Effluent Characterization - Process Wastewater Outfall 001	28
B.	Effluent Limit for Acute Toxicity - Stormwater Outfall 002	28
C.	Monitoring for Compliance with an Effluent Limit at Outfall 002	28
D.	Response to Noncompliance with an Effluent Limit at Outfall 002.....	29
E.	Sampling and Reporting Requirements for Outfalls 001 and 002.....	30
S9.	CHRONIC TOXICITY	31
A.	Effluent Characterization - Process Wastewater Outfall 001	31
B.	Effluent Limit for Chronic Toxicity - Stormwater Outfall 002	31
C.	Monitoring for Compliance with an Effluent Limit at Outfall 002	32
D.	Response to Noncompliance with an Effluent Limit at Outfall 002.....	32
E.	Sampling and Reporting Requirements for Outfalls 001 and 002.....	34
S10.	HERRING EMBRYO AND LARVAL TOXICITY TESTING	35
A.	Study Requirements	35
B.	Sampling and Reporting Requirements	35
S11.	TREATMENT EFFICIENCY STUDIES	37
A.	Operational Plan for the Primary Wastewater Treatment System (PWTS).....	37
B.	Treatment Efficiency Study of the Secondary Wastewater Treatment System (SWTS)	37
C.	AKART Study of the Treatment System for the Direct Contact Anode Cooling Water in the Carbon Plant.....	39
S12.	SEDIMENT MONITORING	40
S13.	OUTFALL EVALUATION	41
S14.	CERTIFIED OPERATOR	41
S15.	BEST MANAGEMENT PRACTICES	41
S16.	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)	42
A.	Plan Update	42
B.	Modifications	43
C.	Implementation	43
D.	Plan Evaluation	43
S17.	GROUND WATER IMPACT STUDY	44
GENERAL CONDITIONS		45
G1.	SIGNATORY REQUIREMENTS.....	45
G2.	RIGHT OF INSPECTION AND ENTRY	46
G3.	PERMIT ACTIONS.....	46
G4.	REPORTING PLANNED CHANGES.....	47
G5.	PLAN REVIEW REQUIRED	48
G6.	COMPLIANCE WITH OTHER LAWS AND STATUTES.....	48
G7.	DUTY TO REAPPLY	48

G8.	TRANSFER OF THIS PERMIT	48
G9.	REDUCED PRODUCTION FOR COMPLIANCE	49
G10.	REMOVED SUBSTANCES	49
G11.	DUTY TO PROVIDE INFORMATION.....	49
G12.	OTHER REQUIREMENTS OF 40 CFR.....	49
G13.	ADDITIONAL MONITORING	49
G14.	PAYMENT OF FEES.....	49
G15.	PENALTIES FOR VIOLATING PERMIT CONDITIONS	49
G16.	UPSET	50
G17.	PROPERTY RIGHTS.....	50
G18.	DUTY TO COMPLY	50
G19.	TOXIC POLLUTANTS.....	50
G20.	PENALTIES FOR TAMPERING	51
G21.	REPORTING ANTICIPATED NON-COMPLIANCE.....	51
G22.	REPORTING OTHER INFORMATION.....	51
G23.	REPORTING REQUIREMENTS APPLICABLE TO EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL DISCHARGERS.....	51
G24.	COMPLIANCE SCHEDULES	52
APPENDIX A –PRIORITY POLLUTANT SCAN		53
APPENDIX B – BEST MANAGEMENT PRACTICES.....		58

SUMMARY OF PERMIT ACTIVITIES AND REPORT SUBMITTALS

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Activity/Report	Frequency	Report Submittal / Activity Date
S1.E.	Engineering Report for Outfall 002 Diversion	1/permit cycle	Within 6 months of permit effective date
S1.E.	Plans and Specifications for Diversion	1/permit cycle	Within 15 months of permit effective date
S1.E.	Construction of Diversion Completed	1/permit cycle	Within 2 years of permit effective date
S1.E.	Revision to O&M Manual for Diversion		At least 90 days prior to completing diversion
S1.F.	Notification of Discharge from Outfall 002	As necessary	
S1.H.	Priority Pollutant Testing	Annually	Within 120 days of each sampling event
S2.D.	Discharge Monitoring Report	Monthly	15 th day of each month
S2.G.	Additional Monitoring by Permittee		With the DMR
S2.H.	Noncompliance Notification	As necessary	
S2.I.	Shellfish Protection - Reporting	As necessary	
S3.A.	Updated Operations and Maintenance Manual		Within 1 year of permit effective date, other updates as necessary
S3.A.	Updated Treatment System Operating Plan		With O&M Manual update and 180 days prior to permit expiration, other updates as necessary
S3.B.	Reporting Bypasses	As necessary	
S5.C.	Updated Solid Waste Plan	As necessary	With permit renewal application, other modifications as necessary
S7.	Updated Spill Plan		Within 1 year of permit effective date, other updates as necessary

Permit Section	Activity/Report	Frequency	Report Submittal / Activity Date
S8.A.	Acute Toxicity Effluent Characterization – Outfall 001	2/permit cycle	Once in the last summer and once in the last winter prior to submitting the renewal application
S8.C.	Acute Toxicity Tests – Outfall 002	Quarterly	Within 60 days after each of the test results is final
S8.D.	Acute Toxicity TI/TRE Plan	As necessary	
S9.A.	Chronic Toxicity Effluent Characterization – Outfall 001	2/permit cycle	Once in the last summer and once in the last winter prior to submitting the renewal application
S9.C	Chronic Toxicity Tests – Outfall 002	Quarterly	Within 60 days after each of the test results is final
S9.D	Chronic Toxicity TI/TRE Plan	As necessary	
S.10.	Herring Toxicity Tests – Outfall 001	2/year	Within 60 days of the second sampling event for that year
S.11.A. and B.	Treatment Efficiency Study Plans for PWTS and ACWFS	1/permit cycle	Within 180 days of permit effective date
S.11.A. and B.	Treatment Efficiency Studies – Sampling	1/permit cycle	Within 90 days of Departmental approval of each plan
S.11.A. and B.	Treatment Efficiency Study Results	1/permit cycle	Within 120 days of completing each study
S11.A. and B.	Operational Plan for PWTS and ACWFS	1/permit cycle	Within 90 days of Department's determination that meets design standards or AKART or 90 days prior to completing upgrades

Permit Section	Activity/Report	Frequency	Report Submittal / Activity Date
S11.A. and B.	Engineering Report for PWTs and ACWFS	1/permit cycle	Within 120 days of Department's determination that doesn't meet design standards or AKART
S11.A. and B.	Upgrades to PWTs and ACWFS	1/permit cycle	Within 2 years of Departmental approval of engineering report
S12.A.	Sediment Sampling and Analysis Plan	1/permit cycle	By January 1, 2008
S12.B.	Sediment Monitoring	1/permit cycle	First stable period following Departmental approval of plan
S12.C.	Sediment Data Report	1/permit cycle	Within 180 days of completion of monitoring
S13	Outfall Evaluation	As necessary	Within 90 days of evaluation but no later than 180 days prior to permit expiration
S14	Certified Operator		Within 180 days of permit effective date
S16.	Updated Stormwater Prevention Pollution Plan		Within 180 days of permit effective date, other modifications as necessary
S17	Ground Water Impact Study Plan	1/permit cycle	Within 3 years of permit effective date
S17	Ground Water Impact Study	1/permit cycle	Within 180 days of Departmental approval of each plan
S17	Ground Water Impact Study Results	1/permit cycle	
G1.	Notice of Change in Authorization	As necessary	
G4.	Permit Application for Substantive Changes to the Discharge	As necessary	

Permit Section	Activity/Report	Frequency	Report Submittal / Activity Date
G5.	Engineering Report for Construction or Modification Activities	As necessary	
G7.	Application for Permit Renewal	1/permit cycle	180 days prior to permit expiration
G8.	Notice of Permit Transfer	As necessary	
G21.	Notice of Planned Changes	As necessary	
G22.	Reporting Anticipated Non-compliance	As necessary	

SPECIAL CONDITIONS

S1. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit.

The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.

A. Process Wastewater Discharges – Outfall 001

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee is authorized to discharge process and domestic wastewater at Outfall 001 subject to complying with the following limitations and monitoring requirements. The compliance point for Outfall 001 is SP-10. During periods of temporary curtailment of smelting operations, the Permittee may reduce effluent monitoring to the frequencies shown below:

Parameter	Units	Effluent Limitations - Outfall 001		Monitoring Frequency During Operation	Monitoring Frequency During Curtailment ^a	Sample Type
		Average Monthly ^b	Maximum Daily ^c			
Total Suspended Solids (TSS) ^d	lbs/day	150	185	1/wk	1/mo	24-hr composite ^e
Fluoride	lbs/day	68	296	1/wk	1/mo	24-hr composite ^e
Aluminum ^d	lbs/day	10.3	30	1/wk	1/mo	24-hr composite ^e
Free Cyanide ^f	mg/l	<0.012	0.012	1/wk	1/mo	Grab
Benzo(a)Pyrene	lb/day	0.06 ^g	0.13	Quarterly	Quarterly	Grab
Antimony	lb/day	5.7 ^g	12.8	1/6 months	1/6 months	Grab
Nickel	lb/day	2.5 ^g	3.7	1/6 months	1/6 months	Grab
Copper	μg/l	--	--	Annually ^h	Annually ^h	Grab
Oil and Grease	mg/l	5	10	Monthly	Quarterly	Grab
pH ⁱ		Daily Minimum 6.0	Daily Maximum 9.0	Continuous	Continuous	Continuous recording

Temperature	°F	--	--	Continuous	Continuous	Continuous recording
Flow	MGD	--	--	Continuous	Continuous	Continuous recording
Production	tons/day	There is no limitation for this parameter. The monthly average of daily production shall be reported in the monthly DMR.				
Secondary Treatment Plant and Stormwater Pond Monitoring – See Permit Condition S1.D.						
Priority Pollutant Testing – See Permit Condition S1.H.						
Acute Toxicity Monitoring – See Permit Condition S8.						
Chronic Toxicity Monitoring – See Permit Condition S9.						
Herring Toxicity Testing – See Permit Condition S10.						
Treatment Efficiency Studies – See Permit Condition S11.						
Sediment Monitoring – See Permit Condition S12.						

^a Temporary curtailment – See Permit Condition S1.J
^b The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
^c The maximum daily effluent limitation is defined as the highest allowable daily discharge.
^d Intalco's effluent limits for TSS and aluminum are for the net amount of each parameter discharged through Outfall 001. The net amount is calculated as: $\text{Net}^* = \text{lbs/day discharged at Outfall 001} - \text{lbs/day in the intake water from the PUD} (* \text{ Minimum value of zero})$. This mass rate is the net value to be reported on DMR Form 3320-1. The permittee shall also submit a summary sheet with the DMR that includes, the daily TSS and aluminum concentrations (mg/l) and the mass rate (lbs/day) for: 1) the intake water, 2) the total effluent values at outfall 001, and 3) the net values. When the net value is less than zero, zero shall be used for reporting and calculating the monthly average.
^e A 24-hr composite sample is defined as a 24-hour flow proportional composite sample.
^f The method for free cyanide analysis shall be Weak Acid Dissociable Cyanide, Method 4500-CN I., <i>Standard Methods for the Examination of Water and Wastewater</i> , 19th Edition. Daily measurements below 0.020 mg/l shall be deemed to demonstrate compliance with the daily maximum limit for cyanide.
^g If monitoring is conducted at the specified frequency or up to once/month then the monthly average limit applies. If monitoring is conducted more frequently than once/month then both the monthly average and the daily maximum limits shall apply.
^h See permit condition S1.H.

ⁱ Indicates the range of permitted values. When pH is continuously monitored, excursions between 5.0 and 6.0, or 9.0 and 10.0 shall not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 30 minutes per month. Any excursions below 5.0 and above 10.0 are violations. The instantaneous maximum and minimum pH shall be reported monthly.

A.1 Stormwater Allocation at Outfall 001

Following the completion of the diversion structure required in S1.E., the Permittee is authorized to discharge additional amounts of the following parameters at Outfall 001 based on additional stormwater flow from Outfall 002 entering Outfall 001. The stormwater flow from Outfall 002 entering Outfall 001 shall be determined by continuous flow monitoring at D-10.

Parameter	Storm water Allocation: Outfall #001	
	Average Monthly	Maximum Daily
	lbs/millions gallons/day	
Total Suspended Solids	292	625
Fluoride	292	417
Aluminum	83	125

The **average monthly storm water allocation** (\overline{SWA}) is defined as the sum of stormwater flows during the month divided by the number of days in the month then multiplied by the average monthly allocation for that parameter.

$$\overline{SWA} = (\sum \text{flows}) / (\text{days}) \times \text{allocation}$$

The **total average monthly limitation** is defined as follows:

$\overline{T} = \overline{B} + \overline{SWA}$, where \overline{T} = total average monthly limit and \overline{B} = base average monthly limit for Outfall 001 in S1.A.

The **total maximum daily monthly limitation** is defined as follows:

$\overline{T} = \overline{B} + \text{allocation}$, where \overline{T} = total maximum daily limit and \overline{B} = base maximum daily limit for Outfall 001 in S1.A.

B. Stormwater Discharges – Outfall 002

Beginning on the effective date of this permit and lasting through the expiration date or completion of the diversion construction whichever comes first, the Permittee is authorized to discharge stormwater at Outfall 002 subject to complying with the following limitations and monitoring requirements. After diversion of stormwater from Outfall 002 to Outfall 001, the Permittee shall comply by collecting and analyzing grab samples of TSS, fluoride, aluminum, and pH according to the provisions of S1.F.

The compliance point for Outfall 002 is D-10. Stormwater from the developed plant-site that under high flow conditions is diverted through any of the three stormwater diversion structures directly to compliance point D-10 and Outfall 002, is not considered a by-pass as defined in S.3.

During periods of temporary curtailment of smelting operations, the Permittee may reduce effluent monitoring to the frequencies shown below:

Parameter	Units	Effluent Limitations - Outfall 002		Monitoring Frequency During Operations	Monitoring Frequency During Curtailment ^a	Sample Type
		Average Monthly ^b	Maximum Daily ^c			
Total Suspended Solids (TSS)	mg/l	35	75	1/wk	2/mo	24-hr composite ^d
Fluoride	mg/l	35	50	1/wk	1/wk	24-hr composite ^d
Aluminum	mg/l	10	15	1/wk	1/wk	24 hr composite ^d
Benzo(a)Pyrene	mg/l	--	<0.01	Annually ^e	Annually ^e	Grab
Copper	µg/l	--	--	Annually ^e	Annually ^e	Grab
Free Cyanide	mg/l	--	--	Annually ^e	Annually ^e	Grab
Oil and Grease	mg/l	5	10	Monthly	Annually	Grab
pH ^f		Daily Minimum 6.0	Daily Maximum 9.0	Continuous	Continuous	Continuous recording
Temperature	°F	--	--	Continuous	Continuous	Continuous recording
Flow	MGD	--	--	Continuous	Continuous	Continuous recording

^a Temporary curtailment – See Permit Condition S1.J.
^b The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
^c The maximum daily effluent limitation is defined as the highest allowable daily discharge.
^d A 24-hr composite sample is defined as a 24-hour flow proportional composite sample.
^e See permit condition S1.H.
^f Indicates the range of permitted values. When pH is continuously monitored, excursions between 5.0 and 6.0, or 9.0 and 10.0 shall not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 30 minutes per month. Any excursions below 5.0 and above 10.0 are violations. The instantaneous maximum and minimum pH shall be reported monthly.
Stormwater Pond Monitoring – See Permit Condition S1.D.
Stormwater Monitoring after Diversion – See Permit Condition S1.F.
Priority Pollutant Testing – See Permit Condition S1.H.
Acute Toxicity Monitoring – See Permit Condition S8.
Chronic Toxicity Monitoring – See Permit Condition S9.
Herring Toxicity Testing – See Permit Condition S10.
Sediment Monitoring – See Permit Condition S12.

C. Sanitary Lagoon Discharges

Beginning on the effective date and lasting through the expiration date of this permit, the Permittee is authorized to discharge treated sanitary lagoon wastewater to Outfall 001 subject to the following limitations and monitoring requirements. During periods of temporary curtailment of smelting operations, the Permittee may reduce effluent monitoring to the frequencies shown below:

Parameter	Units	Effluent Limitations - Sanitary Lagoon Discharge		Monitoring Frequency During Operation	Monitoring Frequency During Curtailment ^a	Sample Type
		30-Day Average ^b	7-Day Average ^c			
Biochemical Oxygen Demand (5-day BOD) ^d	mg/l lbs/day	45.0 22.4	65.0 32.4	1/wk	1/wk	24-hr composite ^e
Total Suspended Solids (TSS) ^d	mg/l lbs/day	45.0 22.4	65.0 32.4	1/wk	1/wk	24-hr composite ^e
Fecal Coliform ^f	Organisms/ 100 mls	200	400	1/wk	1/wk	Grab

Minimum Number of Operating UV Tubes		--	12	Daily ^g	4/wk	Visual
pH ^h		Daily Minimum 6.0	Daily Maximum 9.0	3/wk	3/wk	Grab
UV Intensity	mW/cm ²	--	0.5 ⁱ	3/wk ^g	3/wk	Visual reading of the digital meter located on the tubes
UV Transmittance	Percent	--		3/wk ^g	3/wk	Grab
Flow	MGD	--	--	Continuous	Continuous	Continuous recording

NOTE: Intalco is required to have a Certified Operator for operation of the sanitary treatment plant. See Permit Condition S15.

^a Temporary curtailment – See Permit Condition S1.J.
^b The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
^c The 7-day average effluent limitation is defined as the highest allowable discharge rate for 7 consecutive days, calculated as the average of all samples taken during the 7-day interval.
^d In addition to these limitations, the 30-day average percent removal for BOD and TSS shall be no less than 55% when the monthly average is ≤400 persons are working onsite. Upon an increase in personnel (monthly average >400 persons working onsite), the 30-day average percent removal for BOD and TSS shall be no less than 65%. The Permittee shall report the number of personnel onsite to the Department in the monthly DMR.
^e Any exceedance of the fecal coliform 7-day average limit will require daily sampling until the values have been below the 7-day average limit for three consecutive days. The starting date of the additional sampling will begin as soon as the Permittee is aware of an exceedance, which shall be no later than 2 days after the exceedance sampling.
^f A 24-hr composite sample is defined as a 24-hour flow proportional composite sample.
^g When the sanitary lagoon is discharging.
^h Indicates the range of permitted values. Upon an increase in personnel (monthly average >400 persons working on-site), the monitoring frequency shall be increased to daily or continuous. Samples shall be collected by grab or by a continuous recording. When pH is continuously monitored, excursions between 5.0 and 6.0, or 9.0 and 10.0 shall not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 30 minutes per month. Any excursions below 5.0 and above 10.0 are violations. The instantaneous maximum and minimum pH shall be reported monthly.

ⁱThis is not a limit, it is an action level. The Permittee is required to clean the light tubes at least once every 90 days and any time the UV intensity falls below 0.5 mW/cm². The Permittee shall replace the UV tubes at least once per year.

D. Additional Monitoring Requirements

Beginning on the effective date and lasting through the expiration date of this permit, the Permittee shall comply with the following monitoring and corrective action requirements.

1. Discharges from Outfalls 003, 004, and 005

The Permittee shall collect grab samples of leachate from Outfalls 003, 004, and 005 twice during the wet season (October through May) and once during the dry season (June through September) if leachate is available, until the material in the landfills is completely removed or the landfill is closed and capped. The parameters to be analyzed in the leachate are as follows:

Outfall 003 Fluoride, cyanide, PCBs, pH, and di(2-ethylhexyl) phthlate
Outfall 004 Fluoride, cyanide, PCBs, pH, di(2-ethylhexyl) phthalate, and
priority pollutant metals
Outfall 005 Fluoride, PCBs, pH, and di(2-ethylhexyl) phthlate

The Permittee shall analyze for both total and free (Weak Acid Dissociable) cyanide and shall use the lowest detection level possible when testing for PCBs.

2. Discharges from Outfalls 011 and 012

The Permittee shall collect monthly grab samples from the catch basin sumps for Outfalls 011 and 012 when flow is available. The samples shall be analyzed for TSS, BOD, aluminum, fluoride, and fecal coliform. The results shall be reported in the monthly DMR. After one year of testing at Outfalls 011 and 012, the Permittee may petition the Department in writing to reduce or eliminate this monitoring.

3. Secondary Treatment Plant Discharges

The Permittee shall monitor the secondary treatment plant discharges as prescribed below and report the results in the monthly DMR.

Parameter	Monitoring Frequency	Sample Type	Action Levels ^a
Total Suspended Solids (TSS)	3/wk	24-hr Composite ^b	120 mg/l
Fluoride	3/wk	24-hr Composite ^b	50 mg/l

Aluminum	1/wk	24-hr Composite ^b	--
Free Cyanide	2/wk	24-hr Composite ^b	--
PCBs ^c	Quarterly	Grab	--

^a The Permittee shall conduct a root cause analysis when the monitoring results exceed the action level. This analysis shall include reviewing BMPs, checking addition rates of treatment chemicals, and influent flows and loadings.

^b A 24-hour composite sample is defined as a 24-hour flow proportional composite sample.

^c The Permittee shall begin testing for PCBs at the Secondary Treatment Plant when material from the Beach and Construction Landfills is first moved to the SPL Landfill. The Permittee shall use the lowest detection level possible when testing for PCBs. After two years of testing, the Permittee may petition the Department in writing to reduce or eliminate this monitoring.

4. Storm Water Pond Discharges

The Permittee shall monitor the stormwater pond effluent on any day in which the average stormwater pond discharge, over any 120 minute period, is greater than 3.7 cfs. However, monitoring in excess of 3 times per week is not required. 'Week' is defined as Monday through Sunday.

Parameter	Sample Type	Action Levels ^a
Total Suspended Solids (TSS)	24-hr Composite ^b	20 mg/l
Fluoride	24-hr Composite ^b	35 mg/l
Aluminum	24-hr Composite ^b	8 mg/l

^a The Permittee shall conduct a root cause analysis when the monitoring results exceed the action level. This analysis shall include reviewing BMPs, checking for spills to the stormwater system, and checking ditches and weir integrity and placement.

^b A 24-hour composite sample is defined as a 24-hour flow proportional composite sample.

E. Outfall 002 Diversion

The Permittee shall construct a diversion structure to divert all flow from Outfall 002 to Outfall 001. After construction of the diversion structure is completed, stormwater discharges to Outfall 002 shall not occur except when stormwater discharges exceed the hydraulic capacity of Outfall 001. The Permittee shall submit an Engineering Design

Report for the construction of the diversion structure to the Department for review and approval. The engineering report shall meet the requirements of WAC 173-240-140. The Permittee shall update the Operations and Maintenance (O&M) Manual required in Permit Condition S3. to address the diversion. The revision shall meet the requirements of WAC 173-240-150 and the Permittee shall submit it to the Department for review and approval. Any contemplated changes during construction, which are significant deviations from the approved plans, shall first be submitted to the Department for approval.

Construction Schedule:

1. The engineering design report shall be submitted to the Department for review and approval by _____ (within 6 months of the permit effective date).
2. Plans and specifications shall be submitted to the Department for review and approval by _____ (within 15 months of the permit effective date).
3. Construction of the diversion structure shall be completed by _____ (within 2 years of the permit effective date).
4. The revision to the Operations and Maintenance Manual shall be submitted to the Department for review and approval by _____ (at least 90 days prior to completion of the diversion structure).

F. Stormwater Monitoring at Outfall 002 after Diversion

The Permittee is authorized to discharge stormwater from Outfall 002 during extreme rainfall events when stormwater discharges exceed the hydraulic capacity of Outfall 001. The Permittee shall collect grab samples of the stormwater at D-10 once per event and analyze them for pH, TSS, aluminum, and fluoride. Flow shall also be estimated for each event. The discharge shall not violate the stormwater discharge limitations in S1.B.

G. Whole Effluent Toxicity (WET) Testing

WET testing required during the previous permit cycle indicated that a reasonable potential exists at Outfall 002 to cause receiving water toxicity. Therefore, the Permittee shall perform WET testing on the discharge from Outfall 002 until the diversion to Outfall 001 is completed and operational. Specific WET testing requirements are found in Section S.8 and S.9.

H. Priority Pollutant Testing

The Permittee shall perform annual priority pollutant scans for the wastewater discharges at Outfalls 001 and 002 (until the diversion to Outfall 001 is completed and operational). Testing shall be performed during normal operations and flow regime. Test methods and detection levels shall conform to the requirements outlined in

Appendix A. The Permittee shall submit the priority pollutant data to the Department within 90 days of each sampling event.

I. Mixing Zone Descriptions

The maximum boundaries of the mixing zones are defined as follows:

1. Chronic Mixing Zones

Outfall 001:

The length of the chronic mixing zone shall extend in any horizontal direction from the discharge ports for two hundred (200) feet plus the depth of the diffuser (which is seventeen (17) feet) for a total of two hundred seventeen (217) feet. The edge of the chronic mixing zone shall also be at least 100 feet from the shoreline at mean lower low water. The dilution ratio at the edge of this chronic zone has been calculated to be 190 to 1 (190:1).

Outfall 002:

The length of the chronic mixing zone shall extend in any horizontal direction from the discharge port for two hundred (200) feet plus the water depth at the end of the pipe (which is seven (7) feet) for a total of two hundred and seven (207) feet. The edge of the chronic mixing zone shall also be at least 100 feet from the shoreline at mean lower low water. The dilution ratio at the edge of this chronic zone has been calculated to be 50 to 1 (50:1).

2. Acute Mixing Zones

Outfall 001:

The acute mixing zone is ten percent (10%) of the chronic zone as previously defined. This zone shall be twenty-two (22) feet in any spatial direction from any discharge port. The dilution ratio for the acute zone has been calculated to be 40 to 1 (40:1).

Outfall 002:

The acute mixing zone is ten percent (10%) of the chronic zone as previously defined. This zone shall be twenty-one (21) feet in any spatial direction from any discharge port. The dilution ratio for the acute zone has been calculated to be 5 to 1 (5:1).

J. Temporary Curtailment

Temporary curtailment is defined as the shut down of 90% or more of potline operations. During periods of temporary curtailment of smelting operations, the

Permittee may reduce effluent monitoring to the frequencies shown in S1. Upon restart of the curtailed operations, monitoring frequencies shall revert back to those also specified in Condition S1.

During curtailment, completion of the following studies and other permit requirements shall be suspended:

- S1.E. Outfall 002 Diversion
- S10. Herring Embryo and Larval Toxicity Testing
- S12. Sediment Monitoring Study
- S13. Fugitive Alumina Impact Study
- S18. Groundwater Impact Study

The Permittee shall complete the studies and permit requirements listed above following restart on a schedule agreed to with the Department and established in writing. The Permittee may petition the Department to reduce monitoring frequencies and effluent limitations during other curtailment scenarios.

S2. MONITORING, REPORTING, AND RECORDKEEPING

The Permittee shall monitor and report in accordance with the following conditions. The falsification of information submitted to the Department shall constitute a violation of the terms and conditions of this permit.

A. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit shall be representative of the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, such as bypasses, upsets, and maintenance-related conditions affecting effluent quality.

For the days monitored: or after a portion of the composite sample is removed for the Permittee's analysis, the following remainder shall be retained until 3:00 p.m. that day. These samples shall be kept refrigerated at 4 degrees Celsius (°C) in the dark during collection and storage.

- Outfall 001: 3 gallons minimum
- Outfall 002: 3 gallons minimum
- Sanitary Lagoon Discharge: 3 gallons minimum

Sampling and analytical methods used to meet the monitoring requirements specified in this permit shall conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 or to the latest revision of *Standard Methods for the Examination of Water and Wastewater* (APHA), unless otherwise specified in this permit or approved in writing by the Department.

B. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the quantity of monitored flows. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations and at a minimum frequency of at least one calibration per year. Calibration records shall be maintained for at least three years.

C. Laboratory Accreditation

All monitoring data required by the Department shall be prepared by a laboratory registered or accredited under the provisions of *Accreditation of Environmental Laboratories*, Chapter 173-50 WAC. Flow, temperature, settleable solids, conductivity, pH, turbidity, and internal process control parameters are exempt from this requirement. Conductivity and pH shall be accredited if the laboratory must otherwise be registered or accredited. The Department exempts crops, soils, and hazardous waste data from this requirement pending accreditation of laboratories for analysis of these media.

D. Reporting

The Permittee shall provide data summary sheets for Outfall 001 and the following contributions to Outfall 001, in the monthly DMR:

- PUD influent
- Secondary Treatment Plant effluent
- Sanitary Lagoon influent
- Sanitary Lagoon effluent
- UV Disinfection System effluent

The Permittee shall provide data summary sheets for Outfall 002 and the following contributions to Outfall 002, in the monthly DMR:

- Stormwater Pond Effluent
- Precipitation Record

The Permittee shall provide data summary sheets for Outfalls 011 and 012 in the monthly DMR. The Permittee shall also provide data summary sheets for outfalls 003, 004, and 005 in the DMR during the months when sampling is conducted.

Each summary sheet shall include all of the data that was collected during the month, the formulas (including units) that were used to generate the data in the summary sheet, and any other information required in Permit Conditions S1.A. through S1.D.

The first monitoring period begins on the effective date of the permit. Monitoring results shall be submitted monthly. Monitoring data obtained during each monitoring period shall be summarized, reported, and submitted on a Discharge Monitoring Report (DMR) form provided, or otherwise approved, by the Department. DMR forms shall be received no later than the 15th day of the month following the completed monitoring period, unless otherwise specified in this permit. Priority pollutant analysis data shall be submitted no later than forty-five (45) days following the sampling date. Unless otherwise specified, all toxicity test data shall be submitted within 60 days after the sampling date. The report(s) shall be sent to the Department of Ecology, Industrial Section, P.O. Box 47706, Olympia, Washington 98504-7706.

All laboratory reports providing data for organic and metal parameters shall include the following information: sampling date, sample location, date of analysis, parameter name, CAS number, analytical method/number, method detection limit (MDL), laboratory practical quantitation limit (PQL), reporting units, and concentration detected.

The Permittee shall submit Discharge Monitoring Report forms monthly regardless of whether or not the facility was discharging. If there was no discharge during a given monitoring period, submit the form as required with the words "no discharge" entered in place of the monitoring results.

E. Records Retention

The Permittee shall retain records of all monitoring information for a minimum of three (3) years. Such information shall include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Director.

F. Recording of Results

For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place, method, and time of sampling or measurement; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) the individual who performed the analyses; (5) the analytical techniques or methods used; (6) the results of all analyses; and (7) any formulas and calculations used to derive the results.

G. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit using test procedures specified by Permit Condition S2.A., then the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Permittee's DMR.

H. Noncompliance Notification

In the event the Permittee is unable to comply with any of the terms and conditions of this permit due to any cause, the Permittee shall:

1. Immediately take action to stop, contain, and clean up unauthorized discharges or otherwise stop the noncompliance, correct the problem and, if applicable, repeat sampling and analysis of any noncompliance immediately and submit the results to the Department within thirty (30) days after becoming aware of the violation.
2. Immediately notify the Department of the failure to comply.
3. Submit a detailed written report to the Department within thirty (30) days (within five (5) days for upsets and bypasses), unless requested earlier by the Department. The report shall contain a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or from the resulting liability for failure to comply.

I. Reporting - Shellfish Protection

Unauthorized discharges such as collection system overflows, plant bypasses, or failure of the disinfection system, shall be reported immediately to the Department of Ecology and the Department of Health, Shellfish Program. The Department of Ecology's Northwest Regional Office 24-hr. number is 425-649-7000 and the Department of Health's Shellfish number is 360-753-5992 during business hour or 360-786-4183 during non-business hour.

S3. OPERATION AND MAINTENANCE

The Permittee shall, at all times, properly operate and maintain all facilities or systems of treatment and control (and related appurtenances) which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

A. Operations and Maintenance Manual

An updated Operation and Maintenance (O&M) Manual shall be submitted to the Department for review and approval by _____ (within 1 year of the effective date of this permit). It shall conform to the requirements of WAC 173-240-150. In

addition to the requirements of WAC 173-240-150(1) and (2), the O&M Manual shall include:

1. Emergency procedures for plant shutdown and cleanup in event of wastewater system upset or failure.
2. Plant maintenance procedures.

The approved Operations and Maintenance Manual shall be kept available at the permitted facility and all operators are responsible for being familiar with, and using, this manual. The manual shall be updated and submitted to the Department, as necessary, for any substantial changes to facilities or systems of treatment and control (and related appurtenances).

A Treatment System Operating Plan (TSOP) shall be submitted to the Department as the initial chapter of the updated O&M Manual. This chapter shall be entitled the "Treatment System Operating Plan." For the purposes of this NPDES permit, a TSOP is a concise summary of specifically defined elements of the O&M Manual. The TSOP shall not conflict with the O&M Manual and shall include the following information:

1. A baseline operating condition, which describes the operating parameters and procedures, used to meet the effluent limitations in Condition S1 of this permit at the production levels used in developing these limitations.
2. In the event of production rates, which are below the baseline levels used to establish these limitations, the plan shall describe the operating procedures and conditions needed to maintain design treatment efficiency. The monitoring and reporting shall be described in the plan.
3. In the event of an upset, due to plant maintenance activities, severe stormwater events, start ups or shut downs, or other causes, the plan shall describe the operating procedures and conditions that will be employed to mitigate the upset. The monitoring and reporting shall be described in the plan.
4. A description of any regularly scheduled maintenance or repair activities at the facility which would affect the volume or character of the wastes discharged to the wastewater treatment system and a plan for monitoring and treating/controlling the discharge of maintenance-related materials (such as cleaners, degreasers, solvents, etc.).

An updated TSOP shall be submitted to the Department with the application for renewal, 180 days prior to expiration of the permit. This plan shall be updated and submitted, as necessary, to include requirements for any major modification of the treatment systems.

B. Bypass Procedures

Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited, and the Department may take enforcement action against a Permittee for bypass unless one of the following circumstances (1, 2, or 3) applies.

1. Bypass for Essential Maintenance without the Potential to Cause Violation of Permit Limits or Conditions.

Bypass is authorized for essential maintenance that does not have the potential to cause violations of limitations or other conditions of this permit, or to adversely impact public health as determined by the Department prior to the bypass. The Permittee shall submit prior notice, if possible, at least ten (10) days before the date of the bypass.

2. Bypass Which is Unavoidable, Unanticipated, and Results in Noncompliance of this Permit.

This bypass is permitted only if:

- a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.
 - b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retaining untreated wastes, stopping production, performing maintenance during normal periods of equipment downtime, or transporting untreated wastes to another treatment facility. Bypass is not permitted if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.
 - c. The Department is properly notified of the bypass as required in Condition S2.H. of this permit.
3. Bypass which is Anticipated and has the Potential to Result in Noncompliance of this Permit.

The Permittee shall notify the Department at least thirty (30) days before the planned date of bypass. The notice shall contain (1) a description of the bypass and its cause; (2) an analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing; (3) a cost-effectiveness analysis of alternatives including comparative resource damage assessment; (4) the minimum and maximum duration of bypass under each alternative; (5) a recommendation as to the preferred alternative for conducting the bypass; (6) the projected date of bypass

initiation; (7) a statement of compliance with SEPA; (8) a request for modification of water quality standards as provided for in WAC 173-201A-110, if an exceedance of any water quality standard is anticipated; and (9) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

For probable construction bypasses, the need to bypass shall be identified as early in the planning process as possible. The analysis required above shall be considered during preparation of the engineering report or facilities plan and plans and specifications and shall be included to the extent practical. In cases where the probable need to bypass is determined early, continued analysis is necessary up to and including the construction period in an effort to minimize or eliminate the bypass.

The Department will consider the following factors prior to issuing an administrative order for this type bypass:

- a. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
- b. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retaining untreated wastes, stopping production, performing maintenance during normal periods of equipment down time, or transporting untreated wastes to another treatment facility.
- c. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

After considering the factors above and the adverse effects of the proposed bypass and any other relevant factors, the Department will approve or deny the request. The public shall be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by the Department under RCW 90.48.120.

C. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

S4. FACILITY LOADING

A. Design Criteria

The following design criteria for the permitted treatment facilities shall not be exceeded:

SANITARY LAGOON	
Parameter	Design Quantity
Design flow	475 gpm

STORMWATER POND	
Parameter	Design Quantity
Influent Hydraulic loading	30 cfs in any consecutive 10 minute period

S5. SOLID WASTE DISPOSAL

A. Solid Waste Handling

The Permittee shall handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

B. Leachate

The Permittee shall not allow leachate from its solid waste material to enter state waters without providing all known, available and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee shall apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

C. Solid Waste Control Plan

The Permittee shall submit all proposed revisions or modifications to the solid waste control plan to the Department. The Permittee shall comply with any plan modifications. The Permittee shall submit an update of the solid waste control plan with the application for permit renewal, 180 days prior to the expiration date of the permit.

S6. NON-ROUTINE AND UNANTICIPATED DISCHARGES

A. Beginning on the effective date of this permit, the Permittee may discharge non-routine wastewater on a case-by-case basis if approved by the Department. Prior to any such discharge, the Permittee shall contact the Department and **at a minimum** provide the following information:

1. The nature of the activity that is generating the discharge.
2. Any alternatives to the discharge, such as reuse, storage, or recycling of the water.
3. The total volume of water expected to be discharged.

4. The results of the chemical analysis of the water. The water shall be analyzed for all constituents limited for the Permittee's discharge. The analysis shall also include hardness, any metals that are limited by water quality standards, and any other parameter deemed necessary by the Department. All discharges must comply with the effluent limitations established in Condition S1. of this permit and with water quality standards, sediment management standards, and any other limitations imposed by the Department.
 5. The date of proposed discharge and the rate at which the water will be discharged, in gallons per minute. The discharge rate shall be limited to that which will not cause erosion of ditches or structural damage to culverts, or to their entrances or exits.
- B. The Permittee shall not proceed with discharge until the Department has reviewed the information provided and has authorized the discharge. Authorization from the Department will be by letter to the Permittee or by an Administrative Order.

S7. SPILL PLAN

The Permittee shall submit an update to the existing Spill Control Plan to the Department by _____ (within 1 year of the effective date of the permit) and keep it on site. The plan must include site spill control plans for the prevention, containment, and control of spills or unplanned discharges of: 1) oil and petroleum products, 2) materials, which when spilled, or otherwise released into the environment, are designated Dangerous (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070, or 3) other materials which may become pollutants or cause pollution upon reaching state waters. The Permittee shall review and update the Spill Plan, as needed, but at least annually. The Permittee shall send any Spill Control Plan changes to the Department. The plan and any supplements shall be followed throughout the term of the permit.

The updated spill control plan shall include the following:

- A description of the reporting system which will be used to alert responsible managers and legal authorities in the event of a spill.
- A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.
- A list of all oil and chemicals used, processed, or stored at the facility which may be spilled into state waters.

For the purpose of meeting this requirement, plans and manuals, or portions thereof, required by 33 CFR 154, 40 CFR 109, 40 CFR 110, 40 CFR Part 112, the Federal Oil Pollution Act of 1990, Chapter 173-181 WAC, and contingency plans required by Chapter 173-303 WAC may be submitted.

S8. ACUTE TOXICITY

A. Effluent Characterization - Process Wastewater Outfall 001

There is no acute toxicity limit established for Outfall 001. The Permittee shall test final effluent once in the last summer and once in the last winter prior to submitting the application for permit renewal.

Effluent from Outfall 001 shall be tested for the two species listed below and results submitted to the Department as a part of the permit renewal application process. The Permittee shall complete all applicable requirements in **subsection E**.

Acute toxicity tests shall be conducted with the following species and protocols:

1. Fathead minnow, *Pimephales promelas* (96 hour static-renewal test, method: EPA-821-R-02-012).
2. Daphnid, *Ceriodaphnia dubia*, *Daphnia pulex*, or *Daphnia magna* (48 hour static test, method: EPA-821-R02-012). The Permittee shall choose one of the three species and use it consistently throughout effluent characterization.

B. Effluent Limit for Acute Toxicity - Stormwater Outfall 002

The effluent limit for acute toxicity at Outfall 002 is no acute toxicity detected in a 17% effluent concentration representing the acute critical effluent concentration (ACEC).

The ACEC means the maximum concentration of effluent during critical conditions at the boundary of the acute mixing zone assigned pursuant to WAC 173-201A-100. The acute mixing zone is authorized in Condition S1.I of this permit. The ACEC equals 17% effluent.

In the event of failure to pass the test described in subsection C. of this section for compliance with the effluent limit for acute toxicity, the Permittee is considered to be in compliance with all permit requirements for acute whole effluent toxicity as long as the Permittee meets the requirements in subsection D to the Department's satisfaction.

C. Monitoring for Compliance with an Effluent Limit at Outfall 002

Monitoring to determine compliance with the Outfall 002 acute toxicity limit shall be conducted **quarterly** until the diversion to Outfall 001 is completed and operational. The compliance monitoring shall use each of the species and protocols listed in **subsection A** on a **rotating** basis, and shall be performed using at a minimum 100% effluent, the ACEC, and a control.

The Permittee shall schedule the toxicity tests in the order listed in the permit, unless the Department notifies the Permittee in writing of another species rotation schedule. Testing shall begin within 60 days of the permit effective date. The Permittee shall

submit a written report to the Department within 60 days after each of the test results is final. The percent survival in 100% effluent shall be reported for all compliance monitoring.

Compliance with the effluent limit for acute toxicity means no statistically significant difference in survival between the control and the test concentration representing the ACEC. The Permittee shall immediately implement subsection D if any acute toxicity test conducted for compliance monitoring determines a statistically significant difference in survival between the control and the ACEC, using hypothesis testing at the 0.05 level of significance (Appendix H, EPA/600/4-89/001). If the difference in survival between the control and the ACEC is less than 17%, the Permittee shall conduct the hypothesis test at the 0.01 level of significance.

D. Response to Noncompliance with an Effluent Limit at Outfall 002

If the Permittee violates the acute toxicity limit in subsection B, the Permittee shall begin additional compliance monitoring within one week from the time of receiving the test results. This additional monitoring shall be conducted weekly for four consecutive weeks using the same test and species as the failed compliance test. Testing shall determine the LC₅₀ and effluent limit compliance. The Permittee shall return to the original monitoring frequency required in subsection C after demonstrating compliance with the ACEC in four consecutive weekly compliance tests.

If the Permittee believes that a test indicating noncompliance will be identified by the Department as an anomalous test result, the Permittee may notify the Department that the compliance test result might be anomalous and that the Permittee intends to take only one additional sample for toxicity testing and wait for notification from the Department before completing the additional monitoring required in this subsection. The notification to the Department shall accompany the report of the compliance test result and identify the reason for considering the compliance test result to be anomalous. The Permittee shall complete all of the additional monitoring required in this subsection as soon as possible after notification by the Department that the compliance test result was not anomalous. If the one additional sample fails to comply with the effluent limit for acute toxicity, then the Permittee shall proceed without delay to complete all of the additional monitoring required in this subsection. The one additional test result shall replace the compliance test result upon determination by the Department that the compliance test result was anomalous.

If all of the additional compliance monitoring conducted in accordance with this subsection complies with the permit limit, the Permittee shall search all pertinent and recent facility records (operating records, monitoring results, inspection records, spill reports, weather records, production records, raw material purchases, pretreatment records, etc.) and the Permittee shall submit a report to the Department about possible causes and preventive measures for the transient toxicity event which triggered the additional compliance monitoring.

If toxicity occurs in violation of the acute toxicity limit during the additional compliance monitoring, the Permittee shall submit a Toxicity Identification/Reduction Evaluation (TI/RE) plan to the Department. The TI/RE plan shall be submitted within 60 days after the sample date for the fourth additional compliance monitoring test. If the Permittee decides to forego the rest of the additional compliance monitoring tests required in this subsection because one of the first three additional compliance monitoring tests failed to meet the acute toxicity limit, then the Permittee shall submit the TI/RE plan within 60 days after the sample date for the first additional monitoring test to violate the acute toxicity limit. The TI/RE plan shall be based on WAC 173-205-100(2) and shall be implemented in accordance with WAC 173-205-100(3).

E. Sampling and Reporting Requirements for Outfalls 001 and 002

1. All reports for effluent characterization or compliance monitoring shall be submitted in accordance with the format and content prescribed in the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. The reports shall contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data on floppy disk for electronic entry into the Department's database, then the Permittee shall send the disk to the Department along with the test report, the bench sheets, and the reference toxicant results.
2. Testing shall be conducted on 24-hour composite effluent samples. Composite samples taken for toxicity testing shall be cooled to 4° C while being collected and shall be sent to the lab immediately upon completion. All other samples must be below 8° C at receipt. The lab shall begin the toxicity testing as soon as possible but no later than 36 hours after sampling was ended. The lab shall store all samples at 4° C, in the dark, from receipt until completion of the test.
3. Water quality measurements shall be performed on all samples and test solutions for toxicity testing, as specified in Department of Ecology Publication #WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or the most recent version thereof.
4. All toxicity tests shall meet the quality assurance criteria and test conditions prescribed in the most recent versions of the EPA manual listed in subsection A and in the Department of Ecology Publication #WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If the Department determines that test results are invalid or anomalous by the Department, testing shall be repeated with freshly collected effluent.
5. Control water and dilution water shall be laboratory water meeting the requirements of the EPA manual listed in subsection A, or pristine natural water of sufficient quality for good control performance.
6. The whole effluent toxicity tests shall be run on an unmodified sample of final effluent.

7. The Permittee may choose to conduct a full dilution series test during compliance monitoring in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the ACEC.
8. All whole effluent toxicity tests, effluent screening tests, and rapid screening tests that involve hypothesis testing and that do not comply with the acute statistical power standard of 29% as defined in WAC 173-205-020, must be repeated on a fresh sample with an increased number of replicates to increase the power.

S9. CHRONIC TOXICITY

A. Effluent Characterization - Process Wastewater Outfall 001

There is no chronic toxicity limit established for Outfall 001. The Permittee shall test final effluent once in the last summer and once in the last winter prior to submitting the application for permit renewal.

Effluent from Outfall 001 shall be tested for the two species listed below and results submitted to the Department as a part of the permit renewal application process. The Permittee shall complete all applicable requirements in subsection F.

The Permittee shall conduct chronic toxicity tests with the following species using the most recent version of the following protocols:

Saltwater Chronic Toxicity Test Species		Method
Pacific oyster/ Mussel	<i>Crassostrea gigas</i> / <i>Mytilus sp.</i>	EPA/600/R-95/136, 1005.0
Top Smelt	<i>Atherinops affinis</i>	EPA/600/R-95/136, 1006.0

The Pacific oyster and mussel tests shall be run in accordance with EPA/600/R-95/136 and the bivalve development test conditions in the Department of Ecology Publication #WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or most recent version thereof. The laboratory shall use whichever one of the two species that will give a valid result in each particular test.

The Permittee shall use the West Coast fish (Top Smelt, *Atherinops affinis*) for toxicity testing unless the lab can not obtain a sufficient quantity of a West Coast species in good condition in which case the East Coast fish (Silverside minnow, *Mendidia beryllina*, EPA/600/4-91-003) may be substituted.

B. Effluent Limit for Chronic Toxicity - Stormwater Outfall 002

The effluent limit for chronic toxicity is no toxicity detected in a 2% effluent concentration representing the chronic critical effluent concentration (CCEC).

The CCEC means the maximum concentration of effluent allowable at the boundary of the chronic mixing zone assigned in Condition S1.I. pursuant to WAC 173-201A-100. The CCEC equals 2% effluent.

In the event of failure to pass the test described in subsection C of this section, for compliance with the effluent limit for chronic toxicity, the Permittee is considered to be in compliance with all permit requirements for chronic whole effluent toxicity as long as the Permittee meets the requirements in subsection D to the Department's satisfaction.

C. Monitoring for Compliance with an Effluent Limit at Outfall 002

Monitoring to determine compliance with the Outfall 002 effluent limit shall be conducted quarterly until the diversion to Outfall 001 is completed and operational. The compliance monitoring shall use each of the species listed in subsection A above on a rotating basis and shall be performed using at a minimum the 2% CCEC, the 17% ACEC, and a control. The Permittee shall schedule the toxicity tests in the order listed in the permit, unless the Department notifies the Permittee in writing of another species rotation schedule.

Testing shall begin within 60 days of the permit effective date. The Permittee shall submit a written report to the Department within 60 days after each of the test results is final. This written report shall contain the results of hypothesis testing conducted as described in this subsection using both the ACEC and CCEC versus the control.

Compliance with the effluent limit for chronic toxicity means no statistically significant difference in response between the control and the test concentration representing the CCEC. The Permittee shall immediately implement subsection D if any chronic toxicity test conducted for compliance monitoring determines a statistically significant difference in response between the control and the CCEC using hypothesis testing at the 0.05 level of significance (Appendix H, EPA/600/4-89/001). If the difference in response between the control and the CCEC is less than 20%, the Permittee shall conduct the hypothesis test at the 0.01 level of significance.

In order to establish whether the chronic toxicity limit is eligible for removal from future permits, the Permittee shall also conduct this same hypothesis test (Appendix H, EPA/600/4-89/001) to determine if a statistically significant difference in response exists between the ACEC and the control.

D. Response to Noncompliance with an Effluent Limit at Outfall 002

If a toxicity test conducted for compliance monitoring (under subsection C) determines a statistically significant difference in response between the 2% CCEC and the control, the Permittee shall begin additional compliance monitoring within one week from the time of receiving the test results. This additional monitoring shall be conducted monthly for three consecutive months using the same test and species as the failed compliance test. Testing shall be conducted using a series of at least five effluent concentrations and a control in order to be able to determine appropriate point

estimates. One of these effluent concentrations shall equal the CCEC and be compared statistically to the nontoxic control in order to determine compliance with the effluent limit for chronic toxicity as described in subsection B. The Permittee shall return to the original monitoring frequency in subsection C after completion of the additional compliance monitoring.

If the Permittee believes that a test indicating noncompliance will be identified by the Department as an anomalous test result, the Permittee may notify the Department that the compliance test result might be anomalous and that the Permittee intends to take only one additional sample for toxicity testing and wait for notification from the Department before completing the additional monitoring required in this subsection. The Permittee's notification to the Department shall accompany the report of the compliance test result and shall identify the reason for considering the compliance test result to be anomalous. The Permittee shall complete all of the additional monitoring required in this subsection as soon as possible after notification by the Department that the compliance test result was not anomalous. If the one additional sample fails to comply with the effluent limit for chronic toxicity, then the Permittee shall proceed without delay to complete all of the additional monitoring required in this subsection. The one additional test result shall replace the compliance test result upon determination by the Department that the compliance test result was anomalous.

If all of the additional compliance monitoring conducted in accordance with this subsection complies with the permit limit, the Permittee shall search all pertinent and recent facility records (operating records, monitoring results, inspection records, spill reports, weather records, production records, raw material purchases, pretreatment records, etc.) and submit a report to the Department about possible causes and preventive measures for the transient toxicity event which triggered the additional compliance monitoring.

If toxicity occurs in violation of the chronic toxicity limit during the additional compliance monitoring, the Permittee shall submit a Toxicity Identification/Reduction Evaluation (TI/RE) plan to the Department. The Permittee shall submit the TI/RE plan submittal shall be within 60 days after the sample date for the third additional compliance monitoring test. If the Permittee decides to forego the rest of the additional compliance monitoring tests required in this subsection because one of the first two additional compliance monitoring tests failed to meet the chronic toxicity limit, then the Permittee shall submit the TI/RE plan within 60 days after the sample date for the first additional monitoring test to violate the chronic toxicity limit. The TI/RE plan shall be based on WAC 173-205-100(2) and shall be implemented in accordance with WAC 173-205-100(3).

E. Sampling and Reporting Requirements for Outfalls 001 and 002

1. All reports for effluent characterization or compliance monitoring shall be submitted in accordance with the format and content prescribed in the most recent version of Department of Ecology Publication #WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. The reports shall contain bench sheets and the reference toxicant results for test methods. If the lab provides the toxicity test data on floppy disk for electronic entry into the Department's database, then the Permittee shall send the disk to the Department along with the test report, the bench sheets, and the reference toxicant results.
2. Testing shall be conducted on 24-hour composite effluent samples. Composite samples taken for toxicity testing shall be cooled to 4 degrees Celsius while being collected and shall be sent to the lab immediately upon completion. All other samples must be below 8° C at receipt. The lab shall begin the toxicity testing as soon as possible but no later than 36 hours after sampling was ended. The lab shall store all samples at 4° C, in the dark, from receipt until completion of the test.
3. Water quality measurements shall be performed on all samples and test solutions for toxicity testing, as specified in Department of Ecology Publication #WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or the most recent version thereof.
4. All toxicity tests shall meet the quality assurance criteria and test conditions prescribed in the most recent versions of the EPA manual listed in subsection A and in the Department of Ecology Publication #WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If the Department determines that test results are invalid or anomalous by the Department, testing shall be repeated with freshly collected effluent.
5. Control water and dilution water shall be laboratory water meeting the requirements of the EPA manual listed in subsection A or pristine natural water of sufficient quality for good control performance.
6. The whole effluent toxicity tests shall be run on an unmodified sample of final effluent.
7. The Permittee may choose to conduct a full dilution series test during compliance monitoring in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the ACEC and the CCEC.
8. All whole effluent toxicity tests, effluent screening tests, and rapid screening tests that involve hypothesis testing, and that do not comply with the chronic statistical power standard of 39% as defined in WAC 173-205-020, must be repeated on a fresh sample with an increased number of replicates to increase the power.

S10. HERRING EMBRYO AND LARVAL TOXICITY TESTING

A. Study Requirements

The Permittee shall conduct herring toxicity testing on the final effluent from Outfall 001 twice a year during the permit term, beginning in January 2006. Each year's samples shall be collected at least 2 weeks apart. The Permittee shall conduct the herring toxicity testing on a series of 5 dilutions of effluent plus a nontoxic control. This series of dilutions shall include a 2.5 % dilution (the ACEC). The Permittee shall compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-89/001.

The results of each year's herring toxicity testing shall be submitted to the Department within 60 days of the second sampling event for that year.

The Permittee shall conduct herring toxicity tests using Pacific herring (*Clupea pallasii*) and the embryo and larval test methods developed by the Shannon Point Marine Center. Each sample shall be tested using the Pacific herring embryo development test, the Pacific herring prolarval survival test, and the Pacific herring 10-day larval survival and growth test. The herring toxicity testing shall be performed at a laboratory validated by the Department.

Note: Ecology may delete some or all of the following if Randy Marshall determines that one or more of the tests being developed at Shannon Point Lab are approved for use by the time the permit is ready to issue.

If the Department agrees that any of the herring tests are unavailable at the time of the sampling, the Permittee shall use the following substitute species and test methods:

Pacific herring embryo development test substitute - Sea Urchin, *Strongylocentrotus purpuratus* Embryo-Larval Development Test, EPA/600/R-95/136.

Pacific herring prolarval survival test substitute - Topsmelt, *Atherinops affinis*, 7-Day Larval Survival and Growth Test, EPA/600/R-95/136.

Pacific herring 10-day larval survival and growth test substitute - Topsmelt, *Atherinops affinis*, 7-Day Larval Survival and Growth Test, EPA/600/R-95/136.

B. Sampling and Reporting Requirements

1. All reports for the herring toxicity testing or substitute species testing shall be submitted in accordance with in the format and content prescribed in the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. The reports shall contain the bench sheets and the reference toxicant results for test methods. If the lab provides the toxicity test data on floppy disk for electronic entry into the

Department's database, then the Permittee shall send the disk to the Department along with the test report, the bench sheets and the reference toxicant results.

2. Testing shall be conducted on effluent grab samples. Grab samples must be shipped on ice to the lab immediately upon collection. If a grab sample is received at the testing lab within one hour after collection, it must have a temperature below 20° C at receipt. If a grab sample is received at the testing lab within 4 hours after collection, it must be below 12° C at receipt. All other samples must be below 8° C at receipt. The lab shall begin the toxicity testing as soon as possible but no later than 36 hours after sampling was ended. The lab shall store all samples at 4° C, in the dark, from receipt until completion of the test.
3. Water quality measurements shall be performed on all samples and test solutions for toxicity testing, as specified in Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or the most recent version thereof.
4. All toxicity tests shall meet quality assurance criteria in the EPA manual listed in subsection A. and in Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If the Department determines that test results are invalid or anomalous by the Department, testing shall be repeated with freshly collected effluent.
5. Control water and dilution water shall be laboratory water meeting the requirements of the EPA manual listed in permit Condition S9.A. Dilution water for toxicity testing shall be laboratory water of sufficient quality for good control performance.
6. The whole effluent toxicity test series shall be run on an unmodified sample of final effluent.
7. The Permittee must conduct toxicity tests with a series of 5 effluent concentrations and a control during the herring bioassay study in order to determine dose-response. The series of concentrations must include a 2.5% effluent concentration (the ACEC).
8. All whole effluent toxicity tests that involve hypothesis testing and that do not comply with the chronic statistical power standard of 39% as defined in WAC 173-205-020 must be repeated on a fresh sample with an increased number of replicates to increase the power.

S11. TREATMENT EFFICIENCY STUDIES

A. Operational Plan for the Primary Wastewater Treatment System (PWTS)

The Permittee shall develop an updated operational plan for the PWTS within one year of the effective date of the permit. The plan shall include, but not be limited to, the following

1. A baseline operating condition which describes the operating parameters and procedures used to provide water quality adequate to support proper operation of the potline roof scrubbing systems.
2. A description of the operating procedures and conditions needed to support proper operation of the potline roof scrubbing systems in the event that production levels are below the baseline levels.
3. A description of any regularly scheduled maintenance or repair activities of the primary wastewater treatment plant that could affect the proper operation of the potline roof scrubbers.

B. Treatment Efficiency Study of the Secondary Wastewater Treatment System (SWTS)

1. The Permittee shall prepare a treatment efficiency study plan and schedule and submit it to the Department for review and approval by _____ (within 180 days of the permit effective date). The study plan shall include at a minimum:
 - a. A description of the SWTS treatment efficiency design standards
 - b. A sampling and analysis plan that includes a minimum of six 24-hour time-based composite samples of influent and effluent collected on six separate days representing normal operations (when the wet scrubber system and the SWTS are in a relatively steady state, i.e. no peak flows, upsets, or maintenance turnarounds). Each sample shall be analyzed for TSS, aluminum, fluoride, free cyanide, and pH. The timing of sample collection shall be such that each of the effluent samples corresponds to the upstream influent sample and the resultant analytical results can be effectively used to estimate removal efficiencies across the SWTS.
 - c. A plan for monitoring and recording the flow through the system at the time of sampling. The flow monitoring shall be conducted to provide information on how the system operates under different hydraulic or pollutant loading rates. Acceptable methods of monitoring shall include: in-pipe metering, or other commonly used engineering methods approved by the Department.

- d. A flow diagram which illustrates the locations of the influent and effluent sampling points. The flow diagram shall identify all extraneous wastewater streams to and from the treatment system, including recycle streams. The sample points shall be selected to be representative of each wastewater stream without the influence of recycle streams.
2. The Permittee may submit existing data for substitution or partial substitution of the requirements in 1. above. This data submittal shall include a discussion of the sampling point(s) and methods used to ensure that the data is representative. The Department will then make a determination on the usability of the data and any subsequent sampling required.
3. The Permittee shall conduct the treatment efficiency study of the SWTS within 90 days of the Department's approval of the plan.
4. The Permittee shall submit a report detailing the findings of the study to the Department within 120 days of completion of the study.
5. The Permittee shall submit an Operational Plan conforming to the recommendations of the Treatment Efficiency Study to the Department within 90 days of receipt of the Department's written determination that the SWTS meets treatment efficiency design standards.
6. The Permittee shall prepare an engineering report in accordance with Chapter 173-240 WAC that outlines the proposed changes to upgrade the efficiency of the SWTS to design standards. The engineering report shall be submitted to the Department for review and approval within 120 days of receipt of the Department's determination that the SWTS does not meet treatment efficiency design standards.
7. The Permittee shall make all necessary changes to the SWTS to achieve treatment efficiency design standards, per the approved engineering report, within two years of receiving the Department's written approval of the engineering report.
8. The Permittee shall develop and submit an Operational Plan for the SWTS to the Department 90 days prior to completing the upgrades to the SWTS.

The Permittee shall determine if the current treatment system for direct contact anode cooling water in the Carbon Plant meets all known, available, and reasonable methods of prevention, control, and treatment (AKART) requirements by complying with the following conditions:

C. AKART Study of the Treatment System for the Direct Contact Anode Cooling Water in the Carbon Plant

The Permittee shall determine if the current treatment system for the direct contact anode cooling water in the Carbon Plant meets all known, available and reasonable methods of prevention, control, and treatment (AKART) requirements for polycyclic aromatic hydrocarbons (PAH) compounds, benzo-a-pyrene (B(a)P, antimony, and nickel by complying with the following conditions:

1. AKART Study of the Anode Cooling Water Process: The Permittee shall prepare a study plan to assess whether the current anode cooling water system meets the requirements of AKART for PAH, B(a)P, nickel, and antimony within 180 days of the permit issue date. The study plan shall include at a minimum:
 - a. A description of the anode forming process, the raw materials used in the process, production rates, and contact wastewater flow rates.
 - b. A sampling and analysis plan that includes a minimum of four time-based composite samples of influent (pre-treatment) and effluent (post-treatment) collected on four separate days representing normal operations (when the anode cooling process is being operated in a relatively steady state, i.e. no peak flows, upsets, or maintenance turnarounds). Each sample shall be analyzed for TSS, nickel, antimony, and PAHs (including speciation for B(a)P. The timing of sample collection shall be such that each of the treated effluent samples corresponds to the upstream (pre-treatment) influent samples and the resultant analytical results can be effectively used to estimate removal efficiencies across the existing treatment system.
 - c. A plan for monitoring and recording the flow through the system at the time of sampling. The flow monitoring shall be conducted to provide information on how the system operates under different hydraulic or pollutant loading rates. Acceptable methods of monitoring shall include: in-pipe metering, or other commonly used engineering methods approved by the Department.
2. The Permittee may submit existing data for substitution or partial substitution of the requirements in 1. above. This data submittal shall include a discussion of the sampling point(s) and methods used to ensure that the data is representative. The Department will then make a determination on the usability of the data and any subsequent sampling required.
3. The Permittee shall conduct the AKART study of the anode cooling system within 90 days of the Department's approval of the plan.
4. The Permittee shall submit an engineering report in accordance with WAC 173-240 detailing the findings of the study to the Department within 120 days of completion of the study. The engineering report shall include a section defining AKART for the anode cooling water process and whether the current process meets AKART. If the current

system does not meet AKART the report shall include an outline of proposed changes to upgrade the anode cooling water process. The engineering report shall be prepared under the supervision of a licensed professional engineer trained and experienced in wastewater treatment.

5. The Permittee shall make all necessary changes for the anode cooling water process to meet AKART per the approved engineering report, within two years of receiving the Department's written approval of the engineering report.
6. The Permittee shall develop and submit an Operational Plan for the anode cooling water process to the Department 90 days prior to completing the upgrades recommended in the engineering report.

S12. SEDIMENT MONITORING

The Permittee shall submit to the Department for review and approval a Sediment Sampling and Analysis Plan to recharacterize the sediment in the vicinity of Outfalls 001 and 002. The plan shall include an evaluation of sediment at 2 cm and 10 cm for Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated BiPhenyls (PCBs), aluminum, fluoride, and cyanide. The plan shall include the same sampling stations in the vicinity of each outfall as evaluated in September 1999. Additional sampling locations shall include required reference and ambient stations approved by the Department and representative of conditions found in and around the Cherry Point Reach.

The Sediment Sampling and Analysis Plan shall include a comparison of all stations to the applicable *Sediment Management Standards* (SMS) chemical criteria [WAC-173-204-320(2)]. Confirmatory marine sediment biological testing (WAC-173-204-315) shall be conducted at any station that has exceeded the SMS chemical criteria. The acute and chronic effects biological tests shall be selected by the Department.

The Permittee shall prepare a Sediment Sampling and Analysis Plan following the guidance provided in the Sediment Source Control Standards User Manual, Appendix B: Sediment Sampling and Analysis Plan (Ecology, 2003) and current Puget Sound Estuary Program Protocols.

- A. The Permittee shall submit the Sediment Sampling and Analysis Plan to the Department:
 - 180 days before the start of the sampling event; and
 - no less than 24 months or more than 36 months after the completion of all remediation/restoration activities at the Beach I, Beach II, and Construction Debris landfills.

- B. The Permittee shall perform sediment sampling during the first stable period (mid-August through September) following Departmental approval of the plan.
- C. The Permittee shall submit a Sediment Data Report containing the results of the sediment sampling and analysis within 180 days of the completion of the sediment monitoring study. The Permittee shall also submit electronic copies of the sediment chemical and biological data reported in the Department's Sediment Quality Information System (SEDQUAL) template format. SEDQUAL templates shall be submitted with the Data Report.

S13. OUTFALL EVALUATION

The Permittee shall inspect, once per permit cycle, the submerged portions of both outfall lines and the diffuser on outfall 001 to document its integrity and continued function. If conditions allow for a photographic verification, it shall be included in the report. The inspection report shall be submitted to the Department within 90 days of conducting the outfall evaluation, but no later than 180 days prior to permit expiration.

S14. CERTIFIED OPERATOR

All operators in responsible charge of facilities that treat domestic wastes combined with commercial or industrial waste shall be certified in accordance with the provisions of Chapter 70.95B RCW and Chapter 173-230 WAC by _____ (within 180 days of the permit effective date).

S15. BEST MANAGEMENT PRACTICES

The Permittee shall conduct a monthly inspection to ensure that the Best Management Practices (BMPs) identified below have been implemented and are being followed. Records of inspections and any corrective actions taken shall be kept on file and available for review by the Department.

1. Remove debris from the potline and baghouse ditches weekly. Clean alumina ore from one baghouse center each week or more frequently as necessary.
2. Keep the stop logs in the stormwater pond outlet weir in place during normal operation to maintain the pond's design depth. Maintain the weirs in the stormwater pond diversion structures at a level that protects the pond from flows greater than 28 cfs.
3. Check stormwater pond sediment depth and thickness and percent total solids to determine sediment volume. Remove sediment from the stormwater pond regularly or when storage capacity has been consumed.
4. Install silt fences on construction projects having erosion impacts.

5. Maintain the plant perimeter ditches in a manner that is free from foreign matter and prevents erosion of the ditch surfaces. Where possible maintain a vegetative cover of the ditch surfaces sufficient to provide some filtration of solids, but not substantially impede flows during high rainfall events.
6. Install and maintain inserts in each of the catch basin grates which collect stormwater that is discharged into Outfalls 011 and 012. The inserts shall be designed to filter out and retain particulate matter (i.e., alumina) and allow high flows to bypass the filters when necessary. Clean and maintain catch basin inserts annually, or more frequently if necessary, to prevent overloading.
7. Follow SOP # _____ to minimize spillage and fugitive emissions during alumina ore unloading operations.
8. Check the secondary wastewater treatment plant clarifier cover in accordance with the inspection plan and take corrective action as needed to repair/replace missing or inadequate cover components within 5 working days.

S16. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

The definitions of terms used in this section are provided in the guidance document entitled *Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities* (Ecology Publication No. 04-10-030).

A. Plan Update

The Permittee shall update the SWPPP to include the BMPs and other action items specified in the Department's letter to Intalco, dated May 03, 2005 (see Appendix B). The update shall include the dates (month/year) when BMPs were implemented or action items were completed. The update shall include a schedule for BMPs and action items not yet implemented or completed.

The Permittee shall add the following areas of the plant to the list of potential pollutant sources in the SWPPP: carwashes, employee and visitor parking areas, SPL staging area, roadways and walkways, potline ditches, potline roof run-off, and rail line spills.

The Permittee shall submit the updated plan to the Department for review and comment by _____ (within 180 days of the permit effective date). The Permittee shall implement and comply with the approved SWPPP.

B. Modifications

The Permittee shall modify the SWPPP whenever there is a change in design, construction, operation or maintenance, which causes the SWPPP to be less effective in controlling the pollutants. Whenever the description of potential pollutant sources or the pollution prevention measures and controls identified in the SWPPP are inadequate, the SWPPP shall be modified, as appropriate, within two (2) months of such determination. The proposed modifications to the SWPPP shall be submitted to the Department at least 30 days in advance of implementing the proposed changes in the plan unless the Department approves immediate implementation. The Permittee shall provide for implementation of any modifications to the SWPPP in a timely manner.

The Permittee may incorporate applicable portions of plans prepared for other purposes. Plans or portions of plans incorporated into an SWPPP become enforceable requirements of this permit.

C. Implementation

The Permittee shall conduct two inspections per year - one during the wet season (October 1 – April 30) and the other during the dry season (May 1 – September 30).

1. The wet season inspection shall be conducted during a rainfall event by personnel named in the Stormwater Pollution Prevention Plan (SWPPP) to verify that the description of potential pollutant sources required under this permit are accurate; that the site map required in the SWPPP has been updated or otherwise modified to reflect current conditions; and that the controls to reduce pollutants in stormwater discharges associated with industrial activity identified in the SWPPP are being implemented and are adequate. The wet weather inspection shall include observations of the presence of floating materials, suspended solids, oil and grease, discolorations, turbidity, odor, etc. in the stormwater discharge(s).
2. Personnel named in the SWPPP shall conduct the dry season inspection. The dry season inspection shall determine the presence of unpermitted non-stormwater discharges such as domestic wastewater, noncontact cooling water, or process wastewater (including *leachate*) to the *stormwater drainage system*. If an unpermitted, non-stormwater discharge is discovered, the Permittee shall immediately notify the Department.

D. Plan Evaluation

The Permittee shall evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate and properly implemented in accordance with the terms of the permit or whether additional controls are needed. A record shall be maintained summarizing the results of inspections and shall include a

certification, in accordance with Condition G1.D. of this permit, that the facility is in compliance with the plan and in compliance with this permit. The record shall identify any incidents of noncompliance.

S17. GROUND WATER IMPACT STUDY

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100). The effect of any discharge through the unlined native clay bottoms of the wastewater ponds on ground water cannot be determined without further investigation. To determine what this effect may be, the Permittee shall:

- A. Prepare and submit to the Department for review and approval a ground water impact study plan by _____ (within 3 years of the permit effective date). The study plan shall include sampling plans for determining the concentrations of the constituents listed in the Ground Water Quality Standards (WAC 173-200-040, excepting pesticides, radionuclides, , and dioxin), in each of the unlined wastewater ponds onsite (stormwater pond and sanitary lagoon). Random composite grab samples will be acceptable for sampling the ponds. The groundwater impact study plan shall also include a plan for a hydrogeologic study.
- B. Conduct the study within 180 days of the Department's approval of the study plan.
- C. Prepare and submit a report detailing the results of the ground water impact study to the Department for review and approval within 120 days of completing the study. The report shall contain a monitoring plan if the Department determines that there is a potential for the wastewater to impact the ground water.
- D. Guidance for preparation of hydrogeologic studies and monitoring plans is provided in the *Implementation Guidance for the Ground Water Quality Standards* (Pub. #96-02, April 1996), and can be obtained from the Permit Manager. Existing information on hydrogeologic conditions can be used if it has been obtained within the past five years and the information is in accordance with the guidance.

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Department shall be signed and certified.

- A. All permit applications shall be signed by either a responsible corporate officer of at least the level of vice president of a corporation, a general partner of a partnership, or the proprietor of a sole proprietorship.
- B. All reports required by this permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 1. The authorization is made in writing by a person described above and submitted to the Department.
 - 2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
- C. Changes to authorization. If an authorization under paragraph B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph B.2 above must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.
- D. Certification. Any person signing a document under this section shall make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

G2. RIGHT OF INSPECTION AND ENTRY

The Permittee shall allow an authorized representative of the Department, upon the presentation of credentials and such other documents as may be required by law:

- A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.
- B. To have access to and copy - at reasonable times and at reasonable cost - any records required to be kept under the terms and conditions of this permit.
- C. To inspect - at reasonable times - any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.
- D. To sample or monitor - at reasonable times - any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G3. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the Department's initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

- A. The following are causes for terminating this permit during its term, or for denying a permit renewal application:
 - 1. Violation of any permit term or condition.
 - 2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.
 - 3. A material change in quantity or type of waste disposal.
 - 4. A determination that the permitted activity endangers human health or the environment or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination [40 CFR part 122.64(3)].
 - 5. A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit [40 CFR part 122.64(4)].
 - 6. Nonpayment of fees assessed pursuant to RCW 90.48.465.
 - 7. Failure or refusal of the permittee to allow entry as required in RCW 90.48.090.

B. The following are causes for modification but not revocation and reissuance except when the permittee requests or agrees:

1. A material change in the condition of the waters of the state.
2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.
3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.
4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.
5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR part 122.62.
6. The Department has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.
7. Incorporation of an approved local pretreatment program into a municipality's permit.

C. The following are causes for modification or alternatively revocation and reissuance:

1. Cause exists for termination for reasons listed in A1 through A7, of this section, and the Department determines that modification or revocation and reissuance is appropriate.
2. The Department has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G8) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.

G4. REPORTING PLANNED CHANGES

The Permittee shall, as soon as possible, but no later than sixty (60) days prior to the proposed changes, give notice to the Department of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in:

- 1) the permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b);
- 2) a significant change in the nature or an increase in quantity of pollutants discharged; or
- 3) a significant change in the Permittee's sludge use or disposal practices.

Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, the Permittee shall submit an engineering report and detailed plans and specifications to the Department for approval in accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications shall be submitted at least one hundred eighty (180) days prior to the planned start of construction unless a shorter time is approved by the Department. Facilities shall be constructed and operated in accordance with the approved plans.

G6. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit shall be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. DUTY TO REAPPLY

The Permittee shall apply for permit renewal at least 180 days prior to the specified expiration date of this permit.

G8. TRANSFER OF THIS PERMIT

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Department.

A. Transfers by Modification

Except as provided in paragraph B below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

B. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

1. The Permittee notifies the Department at least 30 days in advance of the proposed transfer date.
2. The notice includes a written agreement between the existing and new permittees containing a specific date of transfer of permit responsibility, coverage, and liability between them.
3. The Department does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under the subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G9. REDUCED PRODUCTION FOR COMPLIANCE

The Permittee, in order to maintain compliance with its permit, shall control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G10. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G11. DUTY TO PROVIDE INFORMATION

The Permittee shall submit to the Department, within a reasonable time, all information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also submit to the Department upon request, copies of records required to be kept by this permit.

G12. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G13. ADDITIONAL MONITORING

The Department may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G14. PAYMENT OF FEES

The Permittee shall submit payment of fees associated with this permit as assessed by the Department.

G15. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars (\$10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten

thousand dollars (\$10,000) for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.

G16. UPSET

Definition – “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted facility was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in condition S3.E; and 4) the Permittee complied with any remedial measures required under S4.C of this permit.

In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G17. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G18. DUTY TO COMPLY

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

G19. TOXIC POLLUTANTS

The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G20. PENALTIES FOR TAMPERING

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this Condition, punishment shall be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both.

G21. REPORTING ANTICIPATED NON-COMPLIANCE

The Permittee shall give advance notice to the Department by submission of a new application or supplement thereto at least one hundred and eighty (180) days prior to commencement of such discharges; of any facility expansions, production increases, or other planned changes, such as process modifications, to the permitted facility or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during non-critical water quality periods and carried out in a manner approved by the Department.

G22. REPORTING OTHER INFORMATION

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or in any report to the Department, the Permittee shall promptly submit such facts or information.

G23. REPORTING REQUIREMENTS APPLICABLE TO EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL DISCHARGERS

The Permittee belonging to the categories of existing manufacturing, commercial, mining, or silviculture must notify the Department as soon as they know or have reason to believe:

- A. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels:"
 1. One hundred micrograms per liter (100 µg/l).
 2. Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
 3. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).

4. The level established by the Director in accordance with 40 CFR 122.44(f).
- B. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following “notification levels:”
1. Five hundred micrograms per liter (500µg/L).
 2. One milligram per liter (1 mg/L) for antimony.
 3. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
 4. The level established by the Director in accordance with 40 CFR 122.44(f).

G24.COMPLIANCE SCHEDULES

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

APPENDIX A –PRIORITY POLLUTANT SCAN

APPENDIX A: PRIORITY POLLUTANT SCAN

Pollutant	CAS Number (if available)	Analytical Protocol as EPA Part 136 methods or Standard Methods	Detection or Quantitation Level
Metals, Cyanide & Total Phenols (Part C)			DL µg/l
Antimony, Total	7440-36-0	204.2	3
Arsenic, Total	7440-38-2	206.2	1
Beryllium, Total	7440-43-9	210.2	1
Cadmium, Total	7440-43-9	213.2	0.1
Chromium, Total	7440-47-3	218.2	1
Copper, Total	7440-50-8	220.2	1
Lead, Total	7439-92-1	239.2	1
Mercury, Total	7439-97-6	245.1 or 245.2	0.2
		1631	0.2 ng/l
Nickel, Total	7440-02-0	249.2	1
Selenium, Total	7782-49-2	270.2	2
Silver, Total	7440-22-4	272.2	0.2
Thallium, Total	7440-28-0	279.2	1
Zinc, Total	7440-66-6	289.2	0.05
Cyanide, Total	57-12-5	335.2 or 335.3	20
Cyanide, WAD	57-12-5	335.1	10
		OIA-1677	0.5
Phenols, total		420.1 or 420.2	
Dioxin			QL µg/l
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin	1764- 01-6	1613	0.00001
Volatile Compounds			QL µg/l
Acrolein	107-02-8	624	50
Acrylonitrile	107-13-1	624	50

Pollutant	CAS Number (if available)	Analytical Protocol as EPA Part 136 methods or Standard Methods	Detection or Quantitation Level
Benzene	71-43-2	624	10
Bis (<i>chloromethyl</i>) Ether	542-88-1	624	10
Bromoform	75-25-2	624	10
Carbon Tetrachloride	56-23-5	624	10
Chlorobenzene	108-90-7	624	50
Chlorodibromomethane	124-48-1	624	10
Chloroethane	75-00-3	624	10
2-Chloroethylvinyl Ether	110-75-8	624	50
Chloroform	67-66-3	624	10
Dichlorobromomethane	75-27-4	624	10
Dichlorodifluoromethane	75-71-8	624	10
1,1-Dichloroethane	75-34-3	624	10
1,2-Dichloroethane	107-06-2	624	10
1,1-Dichloroethylene	75-35-4	624	10
1,2-Dichloropropane	78-87-5	624	10
1,3-Dichloropropylene	542-75-6	624	10
Ethylbenzene	100-41-4	624	10
Methyl Bromide	74-83-9	624	50
Methyl Chloride	74-87-3	624	50
Methylene Chloride	75-09-2	624	20
1,1,2,2-Tetrachloroethane	79-34-5	624	10
Tetrachloroethylene	127-18-4	624	10
Toluene	108-88-3	624	10
1,2-Trans-Dichloroethylene	156-60-5	624	10
1,1,1-Trichloroethane	71-55-6	624	10
1,1,2-Trichloroethane	79-00-5	624	10
Trichloroethylene	79-01-6	624	10
Trichlorofluoromethane	75-69-4	624	10
Vinyl Chloride	75-01-4	624	10
Acid Compounds			QL µg/l
2-Chlorophenol	95-57-8	625	10
2,4-Dichlorophenol	120-83-2	625	10
2,4-Dimethylphenol	105-67-9	625	10
4,6-Dinitro-O-Cresol (2-methyl-4,6 – dinitrophenol)	534-52-1	625	50
2,4 Dinitrophenol	51-28-5	625	50
2-Nitrophenol	88-75-5	625	20
4-Nitrophenol	100-02-7	625	50

Pollutant	CAS Number (if available)	Analytical Protocol as EPA Part 136 methods or Standard Methods	Detection or Quantitation Level
P-Chloro-M-Cresol	59-50-7	625	10
Pentachlorophenol	87-86-5	625	50
Phenol	108-95-2	625	10
2,4,6-Trichlorophenol	88-06-2	625	10
Base/Neutral Compounds			QL µg/l
Acenaphthene	83-32-9	625	10
Acenaphthylene	208-96-8	625	10
Anthracene	120-12-7	625	10
Benzidine	92-87-5	625	50
Benzo (a) Anthracene	56-55-3	625	10
Benzo (a) Pyrene	50-32-8	625	10
3,4-Benzofluoranthene	205-99-2	625	10
Benzo (ghi) Perylene	191-24-2	625	20
Benzo (k) Fluoranthene	207-08-9	625	10
Bis (2-Chloroethoxy) Methane	111-91-1	625	10
Bis (2-Chloroethyl) Ether	111-44-4	625	10
Bis (2-Chloroisopropyl) Ether	108-60-1	625	10
Bis (2-Ethylhexyl) Phthalate	117-81-7	625	10
4-Bromophenyl Phenyl Ether	101-55-3	625	10
Butyl Benzyl Phthalate	85-68-7	625	10
Base/Neutral Compounds			QL µg/l
2-Chloronaphthalene	91-58-7	625	10
4-Chlorophenyl Phenyl Ether	7005-72-3	625	10
Chrysene	218-01-9	625	10
Dibenzo (a,h) Anthracene	53-70-3	625	20
1,2-Dichlorobenzene	95-50-1	625	10
1,3-Dichlorobenzene	541-73-1	625	10
1,4-Dichlorobenzene	106-46-7	625	10
3,3'-Dichlorobenzidine	91-94-1	625	50
Diethyl Phthalate	84-66-2	625	10
Dimethyl Phthalate	131-11-3	625	10
Di-N-Butyl Phthalate	84-74-2	625	10
2,4-Dinitrotoluene	121-14-2	625	10
2,6-Dinitrotoluene	606-20-2	625	10
Di-n-octyl Phthalate	117-84-0	625	10
1,2-Diphenylhydrazine (as Azobenzene)	122-66- 7	625	20

Pollutant	CAS Number (if available)	Analytical Protocol as EPA Part 136 methods or Standard Methods	Detection or Quantitation Level
Fluoranthene	206-44-0	625	10
Fluorene	86-73-7	625	10
Hexachlorobenzene	118-74-1	625	10
Hexachlorobutadiene	87-68-3	625	10
Hexachlorocyclopentadiene	77-47-4	625	10
Hexachloroethane	67-72-1	625	20
Indeno (1,2,3-cd) Pyrene	193-39-5	625	20
Isophorone	78-59-1	625	10
Naphthalene	91-20-3	625	10
Nitrobenzene	98-95-3	625	10
N-Nitrosodimethylamine	62-75-9	625	50
N-Nitrosodi-N-Propylamine	621-64-7	625	20
N-Nitrosodiphenylamine	86-30-6	625	20
Phenanthrene	85-01-8	625	10
Pyrene	129-00-0	625	10
1,2,4-Trichlorobenzene	120-82-1	625	10
GC/MS Fraction – Pesticides and PCBs			QL µg/l
Aldrin	309-00-2	608	0.05
α -BHC	319-84-6	608	0.05
β -BHC	319-85-7	608	0.05
γ -BHC	58-89-9	608	0.05
δ -BHC	319-86-8	608	0.05
Chlordane	57-74-9	608	0.2
4,4'-DDT	50-29-3	608	0.1
4,4'-DDE	72-55-9	608	0.1
4,4' DDD	72-54-8	608	0.1
Dieldrin	60-57-1	608	0.1
α -Endosulfan	959988	608	0.1
β -Endosulfan	33213659	608	0.1

Pollutant	CAS Number (if available)	Analytical Protocol as EPA Part 136 methods or Standard Methods	Detection or Quantitation Level
Endosulfan Sulfate	1031-07-8	608	0.1
Endrin	72-20-8	608	0.1
Endrin Aldehyde	7421-83-4	608	0.1
Heptachlor	76-44-8	608	0.05
Heptachlor Epoxide	1024-57-3	608	0.05
PCB-1242	53469-21-9	608	1.0
PCB-1254	11097-69-1	608	1.0
PCB-1221	11104-28-2	608	1.0
PCB-1232	11141-16-5	608	1.0
PCB-1248	12672-29-6	608	1.0
PCB-1260	11096-82-5	608	1.0
PCB-1016	12674-11-2	608	1.0
Toxaphene	8001-35-2	608	5.0

APPENDIX B – BEST MANAGEMENT PRACTICES



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
TTY 711 or 800-833-6388 (For the Speech or Hearing Impaired)

May 03, 2005

Mr. James Schon
Alcoa Primary Metals Intalco Works (Intalco)
P.O. Box 937
Femdale, WA 98248-0937

RE: Best Management Practices and Action Items recommended in Intalco's NPDES Submittals

Dear Mr. Schon:

Ecology has reviewed the following documents submitted by Intalco in accordance with the requirements of the current NPDES permit:

- Stormwater Pollution Prevention Plan (SWPPP) [dated August 1999]
- Toxicity Identification Evaluation (TIE) (dated December 15, 1999)
- Toxicity Identification/Reduction (TI/RE) Plan (dated July 17, 2000)
- Stormwater Runoff Study Final Report (submitted in May 2001).
 - o Intalco's Stormwater Pond Operational Plan (SWPOP)
 - o As-built engineering report
- Stormwater Runoff Collection/Treatment Feasibility Study Phase 3 Refined Source Assessment (dated July 30, 2001). This document included the results of studies conducted in response to the TI/RE for Roof Runoff, Baghouse drainage, Rod Shop Drainage, Air Deposition, and Fugitive Dust.
 - o Initial Source Assessment Study Results (in response to the TI/RE) [dated June 2000].

- o Refined Source Assessment Results (in response to the findings of the Initial Source Assessment) [dated July 30, 2001].
- Intalco's Stormwater Characterization Study (SWCS)
 - o Stormwater Sampling and Analysis Plan (submitted in August 1999 and additional information submitted in December 1999).
 - o Stormwater Runoff Study Final Report (dated July 30, 2001).
- Stormwater Runoff Study submitted to Ecology (submitted in March 2003 with final amendments submitted in July 2003).
- Proposed Stormwater Pond Outfall Changes (dated October 14, 2003).

These documents contain recommendations for Best Management Practices (BMPs) and studies to determine how to reduce or eliminate pollutants in stormwater. The BMPs and studies that were recommended are listed below.

1. Require silt screens on construction projects having erosion impacts.
2. Study and propose options for reducing or eliminating the outside storage of refractory material.
3. Develop and follow a monitoring plan designed to assess the potential for stormwater contamination, and process water discharges in the event of complete curtailment of the facility.
4. Develop a SOP for handling SPL inside pot buildings.
5. Eliminate floor drains in the tire shop.
6. Install a contained cleaning station for cleaning refractory.
7. Develop a preventive maintenance strategy for immediate containment and cleanup of leaking mobile equipment.
8. Reroute maintenance main shop sink drain from the stormwater collection system to the sanitary sewer.
9. Maintain the materials necessary to rapidly cleanup a spill in vehicle fueling stations.
10. Conduct routine cleanup of the TAC station.
11. Update General Housekeeping Plan to include parking areas and the SPL container staging area.
12. Develop evaluation criteria and procedures for cleaning the stormwater ditches under potline baghouse centers to control alumina accumulation and a schedule for following those procedures.
13. Develop criteria for the alumina unloading operations at the Intalco pier to minimize spillage and fugitive emissions, including a definition of meteorological conditions during which unloading will be suspended.
14. Complete design of stormwater contamination measures to mitigate impacts of alumina on outfalls 011 and 012 within 270 days of the effective date of the permit. Submit design to Ecology for review and approval. Complete installation of mitigation measures within 18 months of the effective date of the permit. Develop and implement a plan to clean and maintain mitigation measures at appropriate intervals within 24 months of permit effective date. Submit plan to Ecology for review and approval.
15. Maintain the stop logs in the stormwater pond outlet weir in place during normal operation to maintain the pond's design depth.

16. Maintain the weirs in the stormwater pond diversion structures at a level that protects the pond from flows greater than 28 cfs.
17. Review and revise sludge survey procedures in Standard Operating Procedure (SOP) A-67 as necessary.
18. Check stormwater pond sludge levels and solids concentrations of sludge according to SOP to determine sludge volumes. Submit the SOP to Ecology for review and approval.
19. Remove sludge from the stormwater pond regularly or when storage capacity has been consumed.
20. Use a stormwater model to analyze the stormwater system's response to flowrates generated from local rainfall (rather than using the Santa Barbara Unit Hydrograph) and to set weir heights in diversion structures.
21. Use NOAA standard rain curves for quantity, intensity, and frequency values and use local rainfall for continuous storm model simulation.
22. Revise Meteorological Data Quality Analysis and Quality Control:
 - a. Revise data collection procedures and data formats to record actual 15-minute rain rather than accumulated running gage total (which are badly disrupted by missing data).
 - b. Revise data collection procedures to immediately correct or discard invalid data in a consistent way.
 - c. Revise, if necessary, procedures for gage maintenance so they produce valid rain data for long term studies.
23. Clean and maintain the stormwater system, including diversion structures.
24. Continue to record level data in diversion structures for future monitoring and modeling purposes.
25. Conduct field inspections to ensure excess sediment accumulation in the diversion structures and pond inlet pipes does not reduce the hydraulic capacity of the stormwater system.
26. Conduct additional hydraulic analysis (i.e. SWMM simulations) if any major changes are made in the stormwater system.
27. Include a requirement in the SWPPP that all new major site work requiring more than one acre of land disturbance or 5,000 square feet of effective impervious area include new aerial photos and/or new site topographic information/drawings for areas impacting stormwater for inclusion into facility stormwater drawings.
28. Develop procedures to minimize the contribution of potline roof run-off to the stormwater waste load which may include, but are not limited to, cleaning of wet scrubber mist eliminators and effective wastewater treatment/control in the primary treatment plant.
29. Focus on the midrange 2-3 hour storms for controlled runoff flow analysis because short or long duration storms will be buffered or lost due to the size of the Intalco controlled runoff basin.
30. Add carwashes, employee and visitor parking areas, SPL staging area, roadways and walkways, potline ditches, potline roof run-off, and rail line spills to the list of potential pollutant sources in the SWPPP.
31. Maintain plant perimeter ditches in manner that minimizes disturbance of the channels, minimizes erosion, and maintains design hydraulic capacity of each ditch.

32. Remove debris from each operational potline and baghouse stormwater ditch once every six weeks.
33. Clean ore from one baghouse center each week or more frequently as necessary.
34. Develop an inspection schedule for the secondary wastewater treatment plant clarifier cover and an action plan requiring repair/replacement of missing or inadequate cover components within 5 working days.
35. Inspect scrap steel in the storage area for materials with the potential to impact stormwater. Document actions taken to mitigate potential impacts if found.
36. Install a cover over the collector bar storage/handling area.
37. Install a cover over the baking furnace brick storage/handling area located next to the Annex facility.
38. Install a cover over the scrap green anode storage/handling area.
39. Outside storage of all drums of lubricating and hydraulic oils with the potential to contaminate stormwater shall be stored under cover.
40. Install a Portland cement concrete pad, slot drains and dead-end sump, a canopy-like structure and above ground tanks at a new vehicle refueling station.

We have included a condition in the proposed NPDES permit that requires Intalco to update their SWPPP to include the BMPs and other action items listed above. The condition states that the update shall include the dates (month/year) when BMPs were implemented or action items were completed and a schedule for BMPs and action items not yet implemented or completed.

The updated SWPPP shall be submitted to Ecology for review and approval within 180 days of the effective date of the new permit. Intalco shall implement and comply with the approved updated SWPPP.

If you have any questions please call me at (360) 407-6942.

Sincerely,



Judith A. Schwieters
Environmental Engineer
Industrial Section
Solid Waste and Financial Assistance Program